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EXAMINER

JARRETT, SCOTT L

ART UNIT

PAPER NUMBER

3623

DATE MAILED: 11/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/916,088

Applicant(s)

CHAPPEL ET AL.

Examiner

Scott L. Jarrett

Art Unit

3623

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-33 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This **Final** Office Action is responsive to Applicant's amendment filed September 30, 2005. Applicant's amendment amended the drawings and amended claims 1-10 and 20-32. Currently claims 1-33 are pending.

Response to Amendment

2. The objection to the drawings in the previous action is withdrawn in response to the Applicant's submission of corrected drawings.
3. The USC 101 rejection of Claims 1-10 and 20-32 in the previous action is withdrawn in response to the Applicant's amendments to the Claims 1-10 and 20-32.

Response to Arguments

4. Applicant's arguments filed September 30, 2005 have been fully considered but they are not persuasive.

In Applicants remarks filed September 30, 2005 applicant argues that the prior art of record, specifically Puittinen et al. fails to teach or suggest "forming at least one representative metric of an interdependency relationship between the first and second project team members" and "storing the at least one metric representative of the interdependency relationship" as claimed in independent claims 1 and 11 or "performing statistical analysis based on the identified modifications to at least one artifact by the first and second persons, the statistical analysis generating at least one metric

Art Unit: 3623

indicative of the interdependency relationship between the first and second persons” as claimed in independent claim 20 or “statistically analyze the data indicative of the temporal relationship between the first and second project team members” as recited in independent claim 33.

Regarding Applicants assertion that the prior art of record fails to teach or suggest the analyzing (statistically, mathematically, etc.) and storing at least one relationship (interdependency, affinity, connection, network, temporal relationship, etc.) between two or more project team members (persons) based on modifications (revisions, versions, etc.) to at least one artifact (document) by the project team members (persons, partners, system users, etc.) the examiner respectfully disagrees.

Puittinen et al. clearly teach a system and method for determining interdependencies/relationships between project team members (persons) working on a project (development project) utilizing a computer network (Internet) wherein the system collects, measures, analyzes (determines, forms, calculates, etc.), visualizes/displays and stores (database, files, memory etc.) information/metrics indicative of the relationships (interrelationships, connections, communications, interactions, temporal relationships) between a plurality of project team members (users, persons, individuals, partners, etc.) based on the team member's project artifact (document) usage (i.e. social interactions, communication patterns, etc.; Summary; Introduction Pages 85-86).

More specifically Puittinen et al. teach:

- that the system/method "...defines a *set of metrics* which enable to visualize the performance of the organization through its communication and behavior....a model to visualize the true *communication network* of the organization...provide management with a unique view on how the organization is performing and how its efficiency can be improved."
(Summary);
- that "Traditional manual approaches to understand organizational behavior can be complemented by *automatic and on-line* based control of the electronic communication. Here we are entering into a new era of *management metrics*, which aims to evaluate the performance of the creative process bound to the exchange of documents." (Paragraph 3, Page 86);
- that "Other *statistics* about information accessed (Number of bytes accessed, status code of the requested operation, etc." (Bullet 5, Page 88) are determined/formed;
- "The information exchange analysis tool is a collection of components that focus on different aspects of the information exchange process based on data obtained from an information system access log." (Last Paragraph, Page 95);
- the system answers the questions "WITH WHOM is information exchanged? and WHAT documents has this node accessed?...This enables the management to check that the right partners are in

communication with each other and that the work seems to be advancing." (Table II);

- "The *information exchange model* showed how discrete interaction events could be combined to form information exchange events that *relate* two information system users to one another....it can be argued that useful relations between information system users can be inferred from system access log data. The information exchange network is just one such abstraction that intended to show *how project partners could be related to one another* based on their document usage activity."
(Section 6.2, Page 99)

5. It is noted that the applicant did not challenge the Official Notice(s) cited in the First Office Action therefore those statements as presented are herein after prior art. Specifically it has been established that it was old and well known in the art at the time of the invention to use a hash table to efficiently store and access large amounts of data.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-23 and 25-33 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Puittinen, Rainer and Hameri, Ari-Pekka (herein after Puittinen et al.), Measuring and Visualizing information transfer in networked collaboration (1999).

Regarding Claims 1, 11 and 33 Puittinen et al. teach a method and system for measuring, analyzing and visualizing the relationships between a plurality of project team members based on the team member's project artifact (document) usage wherein the team member interdependencies information (relationships, social networks, graphs, etc.) provides project managers and team members with "...unique view on how the organization is performing and how its efficiency can be improved." (Summary, Page 1; Figures 1, 3 and 5).

More specifically Puittinen et al. teach a method and system for determining/analyzing interdependencies (relationships, links, associations, etc.) between project members working on a development project utilizing a computer network (Internet) comprising:

- receiving (collecting, acquiring, etc.) data/information indicative of a temporal relationship between two or more project members having modified at least one project artifact (document, code, etc.; Section 4.2 Log Management, Page 92;

“...communication behavior is mapped against project schedule or around certain types of information. However, here we focus on the communication that can be easily detected in a networked collaboration environment.”, Paragraph 1, Page 91; Figure 1, “Log Management Layer”, Figure 2; Figure 5, “Log Files”);

- statistically analyzing the data indicative of the temporal relationship between the two project members (Section 3 The model, Pages 89-90; Paragraph 3, Page 95; Table I; Equations 1-5);

- forming (determining, calculating, etc.) at least one metric (value, number, etc.) representative of the relationship (interdependency, associate, link, distance, correlation, interaction, etc.) between the two project members (e.g. document usage, communication; Paragraph 3, Page 86; Section 4.4 Visualization, Pages 92-93; “Nodes and links can have different colours and the links can be different widths. The (numeric) attributes bound to nodes and links mapped onto graphic cues...”, Paragraph 5, Page 93; “Link width is bound to the breadth of information exchange attribute. The more documents two nodes have accessed, the wider the link between them is.”, Paragraph 5, Page 93; Table I); and

- storing (saving) at least one metric (value, number, etc.) representative of the interdependency (interaction, link, communication, etc.) between two project members (databases, files, memory, web pages, etc.; Paragraph 6, Page 87; “The data from the

Art Unit: 3623

above files are fed to the Java-applet, that draws the graph...", Paragraph 4, Page 93;

Figures 1, 4);

- wherein the steps of receiving the data, statistically (mathematically) analyzing the data and forming at least one metric (indicator, value, measure, parameter, etc.) are performed over a computer network (Internet; Page 93; System Architecture, Pages 90-91; Figures 1-5).

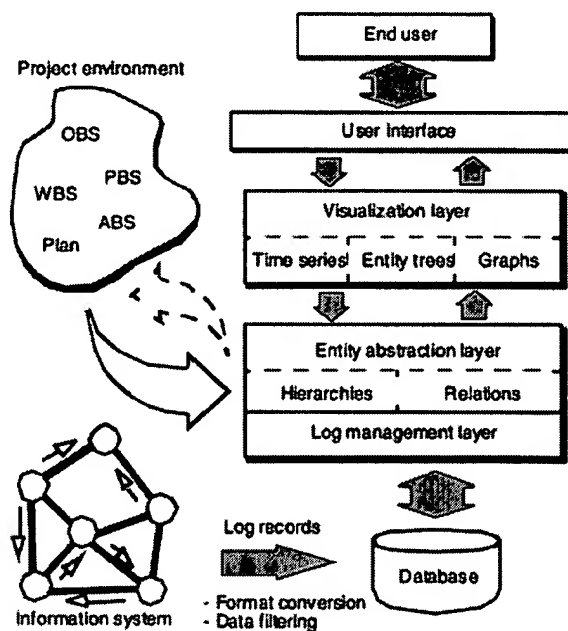


Figure 1. System model, where O = organizational, P = product, W = work, A = assembly and BS = breakdown structure of the concerned project

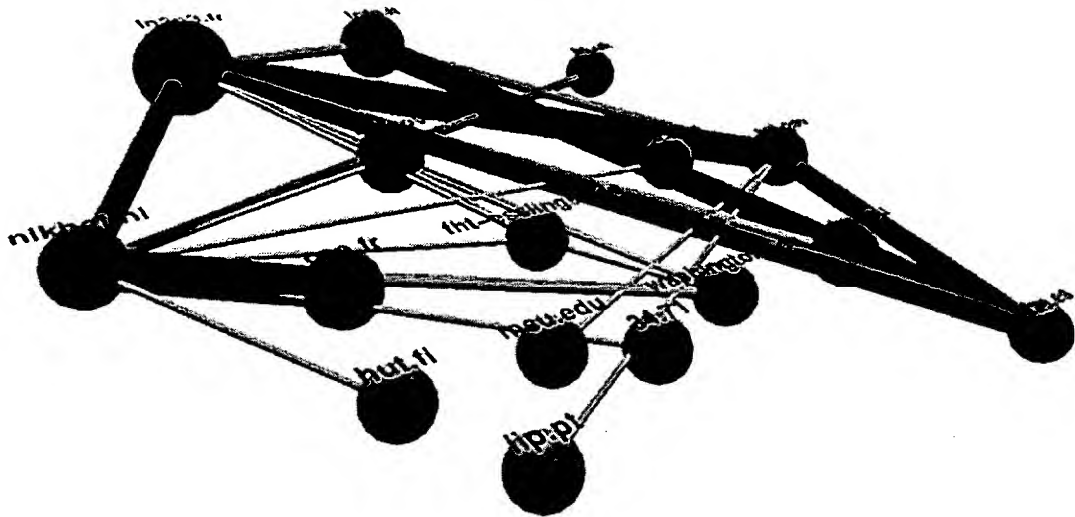


Figure 3. Java applet visualizing the communication network in three-dimensions

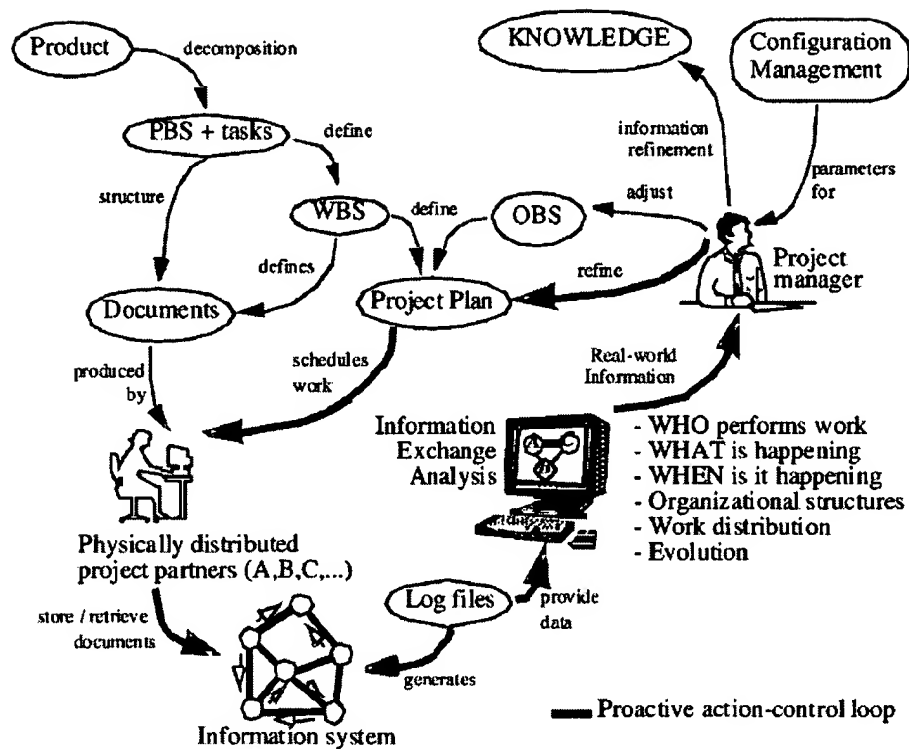


Figure 5. Information exchange analysis as part of the action-control loop (for abbreviations see Figure 1)

Regarding Claims 2 and 12 Puittinen et al. teach that the system and method for determining interdependencies between project members further comprises collecting (receiving, acquiring, etc.) data indicative of modifying (updating, revision, etc.) at least one project artifact by the two project members, wherein the data includes a time-stamp (“...document usage is a metric for information exchange.”, Paragraph 5, Page 86; Section 4.2 Log Management, Page 92; Step 3, Page 88).

Regarding Claims 3 and 13 Puittinen et al. teach a system and method for determining interdependencies between project members wherein the artifact include at least one data element (e.g. tile, description, size, author, etc.) and a data file (document, document properties; Steps 2-5, Page 88; Table II).

Regarding Claim 4 Puittinen et al. teach a system and method for determining interdependencies between project members wherein statistically analyzing includes performing a regression analysis (i.e. determining the association between a dependent variable and one or more independent variables; Page 88; Section 3 The model, Pages 89-90).

Regarding Claim 5 and 15 Puittinen et al. teach a system and method for determining interdependencies between project members wherein statistically analyzing includes performing a correlation to produce at least one correlation coefficient (value; Page 88; Section 3 The model, Pages 89-90; Table 1).

Regarding Claim 6 teach Puittinen et al. teach a system and method for determining interdependencies between project members wherein the interdependency relationship metric includes at least one of the following a correlation coefficient (Page 88; Section 3 The Model, Pages 89-90; Table I), slope and/or an intercept.

Regarding Claim 7 and 16 teach Puittinen et al. teach that the system and method for determining interdependencies between project members further comprising forming (determining, calculating, generating, etc.) and storing (saving) a series of interdependency relationship metrics between the two project members (Page 88; Section 3 The model, Pages 89-90; Tables I, II; Figures 1, 3, 5).

Regarding Claim 8 Puittinen et al. teach a system and method for determining interdependencies between project members wherein the series of interdependency relationship metrics between the two project members includes repeating at predetermined, random or pseudo-random time periods (e.g. continuously; Section 3 The model, Pages 89-90; Section 4.2 Log Management, Page 92).

Regarding Claims 9 and 17-18 Puittinen et al. teach that the system and method for determining interdependencies between project members further comprising displaying (graphically) the series of metrics (Section 4.4 Visualization, Pages 92-93; Figure 2; Table II).

Regarding Claims 10 and 19 Puittinen et al. teach that the system and method for determining interdependencies between project members further comprising generating a human legible alphanumeric description of the at least one interdependency metric to describe the strength of the interdependency relationship between the two project members (Section 5 Use the system, Pages 93-95; Table I).

Regarding Claim 14 Puittinen et al. teach that the system and method for determining interdependencies between project members wherein statistically analyzing includes performing a regression analysis and a correlation (Page 88; Section 3 The model, Pages 89-90).

Regarding Claim 20 Puittinen et al. teach a system and method for determining interdependencies between project members (partners, system users, etc.) a method and system for analyzing an interdependency relationship between two persons working on at least one artifact stored on a network comprising:

- tracking modifications (revisions, updates, versions, etc.) to at least one artifact (document, code, deliverable, etc.; Section 4.2 Log Management, Page 92; "Who is accessing a particular document? This adds another facet to the document level analysis of the project communication.", Table II);
- storing parameters (values, variables, information, data, etc.) associated with the artifact modification (database, files, memory, web pages, etc.; Section 4.2 Log

Management, Page 92; "The data from the above files are fed to the Java-applet, that draws the graph...", Paragraph 4, Page 93; Figures 1, 4);

- identifying artifact modifications with the person (individual, member, etc.) making the modifications (Section 4.2 Log Management, Page 92; "The *information exchange model* showed how discrete interaction events could be combined to form information exchange events that *relate* two information system users to one another....it can be argued that useful relations between information system users can be inferred from system access log data. The information exchange network is just one such abstraction that intended to show *how project partners could be related to one another* based on their document usage activity.", Section 6.2, Page 99; Table II);

- statistically (mathematically) analyzing the artifact modification information (access logs, document information, etc.; Section 3 The model Pages 89-90; "Other *statistics* about information accessed (Number of bytes accessed, status code of the requested operation, etc.", Bullet 5, Page 88; Figure 4; Equations 1-5);

- generating (forming, calculating, determining, etc.) at least one interdependency relationship (interaction, communication, etc.) metric (measure, value, parameter, indicator) between the persons (Page 88; Section 3 The model Pages 89-90; Table I).

Regarding Claims 21 Puittinen et al. teach a system and method for determining interdependencies between project members wherein the artifact modification

parameters include time-stamps identifying times the artifact was modified (Paragraph 5, Page 86; Section 4.2 Log Management, Page 92; Step 3, Page 88; Table II).

Regarding Claim 22 Puittinen et al. teach a system and method for determining interdependencies between project members wherein the artifact is associated with a development project (“real world engineering project”, Paragraph 5, Page 90; Paragraph 3, Page 97).

Regarding Claim 23 Puittinen et al. teach a system and method for determining interdependencies between project members wherein the parameters are stored in a table (Section 4.2 Log Management, Page 92; Figure 1, Database).

Regarding Claim 25 Puittinen et al. teach a system and method for determining interdependencies between project members wherein the table includes at least one key associated with each artifact (e.g. artifact/document ID; Steps 1-5, Pages 87-88; “indices”, Section 4.2 Log Management, Page 92).

Regarding Claim 26 Puittinen et al. teach a system and method for determining interdependencies between project members wherein at least one artifact includes at least one data object (parameter, value, property, etc.) and a data file (Steps 1-5, Pages 87-88; Section 4.2 Log Management, Page 92).

Regarding Claim 27 Puittinen et al. teach a system and method for determining interdependencies between project members wherein the network includes at least one of the following a local area network, a wide area network and the Internet (Section 4 System architecture, Pages 90-91; Figure 2; Table II).

Regarding Claim 28 Puittinen et al. teach a system and method for determining interdependencies between project members wherein statistically analyzing includes performing a regression analysis and a correlation (Page 88; Section 3 The model, Pages 89-90; Table I).

Regarding Claim 29 Puittinen et al. teach a system and method for determining interdependencies between project members wherein identifying artifact modifications with the person (individual, member, etc.) making the modifications includes counting the number of modifications made by each person to the artifact (Step 3, Page 95; Figure 1; Table II).

Regarding Claim 30 Puittinen et al. teach that the system and method for determining interdependencies between project members further comprising summing a number of artifact modifications modified by the first person and successive modified by the second person (Section 4.2 Log Management, Page 92; Paragraph 3, Page 95; Table II).

Regarding Claim 31 Puittinen et al. teach a system and method for determining interdependencies between project members wherein the identified artifact modifications with the person (individual, member, etc.) making the modifications are aggregated (summed, totaled, etc.) for artifacts of the same type (Steps 1-5; Pages 87-88; Section 4.4 Visualization, Pages 92-93; Table II).

Regarding Claim 32 Puittinen et al. teach a system and method for determining interdependencies between project members wherein the identified artifact modifications with the person (individual, member, etc.) making the modifications are determined on an individual artifact basis (Steps 1-5; Pages 87-88; Table II).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Puittinen, Rainer and Hameri, Ari-Pekka (herein after Puittinen et al.), Measuring and Visualizing information transfer in networked collaboration (1999) as applied to claims 1-23 and 25-33 above and further in view of official notice.

Regarding Claim 24 Puittinen et al. teach a system and method for determining interdependencies between project members wherein the parameters are stored in a plurality of databases (tables) as discussed above.

Puittinen et al. does not expressly teach a system and method for determining interdependencies between project members wherein the parameters are stored in a hash table as claimed.

Official notice is taken that in computer science, a hash table is an associative array data structure that associates keys with values. The primary operation it supports efficiently is a lookup, where the hash table is given a key, an identifier for the information to be found such as a documents/artifact's ID, and asked to find the

Art Unit: 3623

corresponding value. The hash table works by transforming the key using a hash function into a hash, a number that the hash table uses to locate the desired value.

Hash tables are often used to implement associative arrays, sets and caches. Like arrays, hash tables can provide constant-time $O(1)$ lookup on average, regardless of the number of items in the table. However, the rare worst-case lookup time can be as bad as $O(n)$. Compared to other associative array data structures, hash tables are most useful when a large number of records of data are to be stored.

It would have been obvious to one skilled in the art at the time of the invention that the system and method for determining interdependencies between project members, with its collection of a large amount of log/document usage data, as taught by Puittinen et al. would have benefited from utilizing a hash table to efficiently store and access the large amounts of data being collected in view of the teachings of official notice; the resultant system providing for consistent data access times despite large increases in the volume of log data collected.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Altschuler et al., U.S. Patent No. 6,151,585, teach a method and system for determining interdependencies (relationships, links, associations) between a plurality of individuals utilizing a computer network wherein the system/method receives, stores, analyzes and displays data/information indicative of a relationship between a plurality of individuals (e.g. degrees of influence).

- Smith et al., U.S. Patent No. 6,594,673, teach a system and method for determining, analyzing and visualizing relationships/interdependencies between a plurality of users/information over a computer network.

- Armstrong et al., U.S. Patent Publication No. 2002/0169737, teach a system and method for determining and visualizing relationships between people and/or artifacts. Armstrong et al. further teach the well known utilization and availability of a plurality of similar systems (e.g. ThinkMap, TheBrain, etc.).

- Trevithick et al., U.S. Patent Publication No. 2002/0116466, teach a system and method for characterizing (determining, forming, analyzing, etc.) interrelationships between a plurality of individuals (i.e. social networks such as teams, organizations, etc.). Trevithick et al. further teach that team member interactions/interdependencies are characterized by a "set of objective metrics that capture the quality, depth, balance and accountability in relationships" and that such relationship information is of interest/value to business managers.

- Hu, U.S. Patent Publication No. 2002/0147710, teaches a system and method for determining (forming) and analyzing relationships between a plurality of people over the Internet.

- Brezin et al., U.S. Patent Publication No. 2002/0178161, teach a system and method for determining and analyzing relationships (communication relationships) amongst a plurality of people such that "a more complete picture of a user's relationships with others based on their communication activity and organization relatedness and to use the model so constructed to enhance system resources and performance."

- Simmons, Dick B., Communications: a software group productivity dominator (1991), teaches a metrics driven project management approach/method wherein

Art Unit: 3623

several key factors (dominators) are modeled and managed, utilizing project/team metrics, including communications/interactions between project team members.

Simmons further teaches that the metrics-driven project management approach/method generates a group communications model showing the links/relationships between members/groups.

- Simmons, Dick B., A Win-Win Metric Base Software Management Approach (1992), teaches a metrics-driven project management method/approach wherein team communication is a key factor/dominator of project/team productivity. Simmons further teaches two systems utilized for project/team management including DOMONIC (documents, monitors and controls projects) and CLAMP (computerized lifecycle advising, monitoring and controlling project manager) wherein CLAMP collects and analyzes team member activities in order to develop/form a set of project/team metrics (e.g. document type, change frequency, etc.).

- Simmons et al., Manager Associate (1993), teach a metrics-based project management approach/method wherein the method is supported by several applications/systems including DOMONIC, CLAMP and Manager Associate (MA). Simmons et al. further teach that MA comprises several databases for collecting/storing/analyzing project metrics and data analysis/metric routines (subsystems) for mathematically analyzing/forming metrics.

- Mehul, Shah, ReferralWeb (1997), teaches an Internet-based system and method for determining interdependencies/relationships amongst a plurality of individuals.

- Jones, Gregory James, A Study of Communications (2001), teaches a method for analyzing relationships between individuals wherein the nature/extent of information exchanges (e.g. email) are monitored and analyzed.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott L. Jarrett whose telephone number is (571) 272-7033. The examiner can normally be reached on Monday-Friday, 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hafiz Tariq can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



11/4/2005



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